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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/353,583	
	Filing Date	July 15, 1999	
	First Named Inventor	Samuel Reichgott	
	Art Unit	2611	
	Examiner Name	TRAN, Hai V. SEP 10 2003	
Total Number of Pages in This Submission	75	Attorney Docket Number	GEN-040

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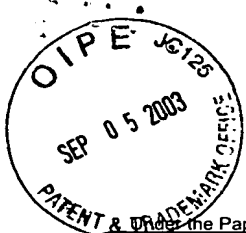
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Steven L. Nichols (Reg. No.: 40,326)
Signature	
Date	September 5, 2003

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FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 320.00

Complete if Known

Application Number 09/353,538
Filing Date July 15, 1999
First Named Inventor Samuel Reichgott
Examiner Name TRAN, Hai V.
Art Unit 2611
Attorney Docket No. GEN-040

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SEP 10 2003

Technology Center 2600

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number
Deposit Account Name

18-0013

Rader, Fishman & Grauer

The Director is authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 750	2001 375	Utility filing fee	
1002 330	2002 165	Design filing fee	
1003 520	2003 260	Plant filing fee	
1004 750	2004 375	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	

SUBTOTAL (1) (\$)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 84	2201 42	Independent claims in excess of 3
1203 280	2203 140	Multiple dependent claim, if not paid
1204 84	2204 42	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 410	2252 205	Extension for reply within second month	
1253 930	2253 465	Extension for reply within third month	
1254 1,450	2254 725	Extension for reply within fourth month	
1255 1,970	2255 985	Extension for reply within fifth month	
1401 320	2401 160	Notice of Appeal	
1402 320	2402 160	Filing a brief in support of an appeal	320.00
1403 280	2403 140	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,300	2453 650	Petition to revive - unintentional	
1501 1,300	2501 650	Utility issue fee (or reissue)	
1502 470	2502 235	Design issue fee	
1503 630	2503 315	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 750	2809 375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 750	2810 375	For each additional invention to be examined (37 CFR 1.129(b))	
1801 750	2801 375	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 320.00

SUBMITTED BY

(Complete if applicable)

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Signature [Signature]
Date September 5, 2003

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GEN-040

09/353,583

#26
W. Lamm
12/19/03
1063

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Group Art Unit: 2611

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Samuel REICHGOTT et al.

Conf. No.: 3801

SEP 10 2003

Serial No.: 09/353,583

Examiner: TRAN, Hai V. Technology Center 2600

Filed: July 15, 1999

For: METHOD & APPARATUS FOR PREVENTING DISRUPTIONS IN SET-TOP TERMINAL FUNCTION DUE TO THE DOWNLOAD OF UPDATED PROGRAMMING OR DATA TO THE SET-TOP TERMINAL

**REQUEST FOR REINSTATMENT OF APPEAL AND
SUPPLEMENTAL APPEAL BRIEF**

Commissioner of Patents
Arlington, Virginia

Sir:

This is a Supplemental Appeal Brief under 37 C.F.R. § 1.193(b)(2). Applicant previously filed an Appeal Brief on March 23, 2003, which is incorporated herein by reference. After considering Appellant's Brief, the Examiner reopened prosecution with a non-Office Action dated June 5, 2003 (Paper No. 23). Applicant continues to traverse the rejection of the claimed invention in the Office Action of June 5, 2003. Accordingly, Applicant hereby requests reinstatement of its appeal and offers the present Supplemental Appeal Brief in compliance with 37 C.F.R. § 1.193(b)(2). Each of the topics required by Rule 192 is presented herewith and is labeled appropriately.

09/10/2003 090000064 100013 09353583

09/10/2003 320.00 DA

I. Real Party in Interest

This application has been assigned to General Instrument Corp. of Horsham, Pennsylvania. The Assignment is recorded at Reel 010107, Frame 0420. General Instrument Corp. is a wholly owned subsidiary of Motorola, Inc. of Schaumburg,

Illinois. Thus, the real parties in interest are General Instrument Corp and Motorola, Inc.

II. Related Appeals and Interferences

There are no appeals or interferences related to the present application of which the Appellant is aware.

III. Status of Claims

Claims 1-46 are currently pending in the application and all stand finally rejected. Appellant appeals from the final rejection of claims 1-46, which claims are presented in the Appendix.

IV. Status of Amendments

No amendments to the application were filed subsequent to the Office Action of October 23, 2002 (Paper No. 18). A single after-final response was filed December 10, 2002 and made no amendments to the application.

V. Summary of the Invention

The present invention relates to the field of cable television in which a signal headend (201, Fig. 2) distributes a cable television signal over a cable network to a population of programmed set-top terminals (202, Fig. 2). Each subscriber will have a set-top terminal to enable reception and use of the cable television signal.

“Periodically, as the cable system evolves, new features may become available or signal distribution may be refined in such a manner that the programming in the set-top terminal (202) needs to be updated in order to allow the terminal (202) to continue to provide the services of the cable system to subscribers with peak efficiency.” (Spec., p. 2, lines 15-21). “[N]ew programming for the set-top terminal (202) can be transmitted to the terminal (202) over the cable network (203) itself. In this way, upgraded programming and data can be distributed automatically from the headend (201) without requiring a visit to each set-top terminal (202) individually.” (Spec, p. 2, lines 25-31).

However, the download of new programming over the cable network may interrupt the operation of the set-top terminal and the subscriber's use of the cable network. (Spec., p. 3). To avoid this, "the present invention involves preventing the computer processor (205) of the set-top terminal from accepting every download of data or programming offered by the headend over the cable network unless predetermined criteria are satisfied. Consequently, unnecessary interruptions of the terminal functions or television signal usage are prevented." (Spec., p. 7, lines 13-19).

The "set-top terminal (202) [receives] a signal indicating that programming or data is available for download over the cable network (203). . . . The set-top terminal (202) may also be informed of the channel on which the download will be made available if that channel is an in-band channel (102). The set-top terminal (202) may also be informed of the channel on which the download will be made available if that channel is an in-band channel (102)." (Spec., p. 7, lines 22-28).

"After the set-top terminal (202) is signaled that a download is being offered and the channel over which the download will be made, the set-top terminal (202) will determine whether it has the criteria that must be met for accepting a new download (103)." (Spec., p. 7, line 33 to p. 8, line 4). "However, before the criteria for authorizing an interruption for accepting a download are checked, the set-top terminal (202) will verify that the data or programming being offered is a new version or does, in fact, represent an update from the data or programming the set-top terminal (202) already has (105)." (Spec., p. 8, lines 19-25).

"The criteria for authorizing a download may include one or more conditions that would indicate that interruption of service to accept a download is acceptable at that time. For example, if the set-top terminal (202) is turned off or is in the logical off state, the subscriber is clearly not using the terminal (202) and will not be annoyed at a service interruption to accept a download." (Spec., p. 9, lines 20-27).

"Alternatively, if the set-top terminal (202) is in use when a download is offered, the set-top terminal (202) may query the subscriber whether he or she wishes to accept the download." (Spec. p. 9, lines 30-33).

"If the criteria for accepting a download are not met, the set-top terminal (202) will not accept the download. The set-top terminal (202) may be programmed to

periodically or continuously reassess the criteria and accept the download when the criteria become satisfied.” (Spec., p. 10, line 31 to p. 11, line 2).

“Additionally, the signal alerting the set-top terminal (202) that a download is available may include a deadline by which the terminal (202) must accept the download, if the terminal (202) determines that it needs or is intended to receive the download If a deadline for accepting the download is set and the set-top terminal (202) has not been able to satisfy alternative criteria for accepting the download, the set top terminal (202) will, on that deadline, suspend service as necessary to accept the download (107).” (Spec., p. 11, lines 3-15).

Similarly, the set-top terminal, once it has acquired a download of new programming, may delay execution of the new programming until criteria are satisfied that indicate a minimum interference to the user by switching from older to newer programming. (Spec., p. 12, line 3 *et seq.*). These criteria may be similar to the criteria used for deciding whether to accept a download of new programming.

VI. Issues

In the non-Office Action of June 5, 2003 (Paper No. 23), the following rejections were made:

Claims 1-4, 6-17, 24-27, 30-35 and 41-44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon") and U.S. Patent No. 5,497,187 to Banker et al. ("Banker").

Claims 5 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker and U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl").

Claims 18-19, 21-23, 29, 36, 37, 39 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker and U.S. Patent No. 5,619,250 to McClellan et al. ("McClellan").

Claims 20 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker, McClellan and U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden").

Claims 45 and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker and U.S. Patent No. 6,141,683 to Kraml et al. ("Kraml").

Accordingly, the issues presented on this appeal are

(1) whether claims 1-4, 6-17, 24-27, 30-35 and 41-44 are unpatentable under 35 U.S.C. § 103(a) over the combined teachings of U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon") and U.S. Patent No. 5,497,187 to Banker et al. ("Banker").

(2) whether claims 5 and 28 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of Banker and U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl").

(3) whether claims 18-19, 21-23, 29, 36, 37, 39 and 40 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of Banker and U.S. Patent No. 5,619,250 to McClellan et al. ("McClellan").

(4) whether claims 20 and 38 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of Banker, McClellan and U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden").

(5) whether claims 45 and 46 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of Banker and U.S. Patent No. 6,141,683 to Kraml et al. ("Kraml").

VII. Grouping of Claims

Claims 1-4, 6, 9-17, 24-27, 29-37, and 39-42 stand or fall together. Claims 7, 8, 43 and 44 stand or fall together. Claims 18, 19, 21-23 and 36-40 stand or fall together. Claim 41 stands alone. Claims 5 and 28 stand or fall together. Claims 20 and 38 stand or fall together. Claims 45 and 46 stand or fall together. Arguments in support of the independent patentability of each of these claim groups will be provided below.

VIII. Arguments

In the non-Office Action of June 5, 2003 (Paper No. 23), claims 1-4, 6-17, 24-27, 30-35 and 41-44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Bacon and Banker.

Claim 1 recites:

A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:
a processor; and
a memory unit,
wherein the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts said download on said specified in-band channel and records said download in said memory unit when one or more predetermined criteria are satisfied, and wherein said criteria when satisfied indicates that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal.

Claims 24 and 43 recite similar subject matter.

Applicant has previously explained on the record that Bacon fails to teach or suggest a set-top terminal with a processor that monitors an out-of-band control channel for information indicating that a download of data or programming is available on a specified in-band channel. The newly-cited Banker reference likewise fails to teach or suggest this feature of the claimed invention.

In attempting to reject the claimed invention, the Office Action cites unrelated portions of Bacon and takes the teachings of Bacon out of context. Specifically, the Office Action cites Bacon at Col. 8, lines 12-24 as demonstrating that Bacon teaches the downloading of "control data" "(by any of the three data transmission schemes discussed herein, out-of-band, in-band audio or in-band video)." However, this portion of Bacon and the control data mentioned refer to how and when the set-top descrambles a scrambled signal.¹ This portion of Bacon is not discussing or teaching

¹ Bacon, Col.8, lines 12-24 reads, in pertinent part, "The descrambler control 110 of the MCC 104 utilizes recovered descrambling data to generate appropriate control signals, for example, inversion control and equalizing, sync restoration or regeneration for descrambling, or otherwise restoring the input baseband television signal. A secure microprocessor 136 determines whether the descrambler control 110 of MCC 104 carries out descrambling on a particular channel or what form of descrambling is required at a particular time by interpreting the authorization and *control data* downloaded from the system manager 12 (by any of the three data transmission schemes discussed herein, out-of-band, in-band audio or in-band video) into the internal NVM memory of the device."

anything about the downloading of new programming to the set-top terminal and is thus entirely inapposite to the claimed invention.

More importantly, this section of Bacon does not teach or suggest the claimed monitoring of an out-of-band channel that broadcasts an alert that new programming is available on a separate, specific in-band channel. The portion of Bacon that actually teaches the downloading of new programming for the set-top begins at col. 9, line 25 and continues to col. 11, line 20. At no point in this discussion, or elsewhere, does Bacon teach or suggest the claimed out-of-band monitoring for information that points the set-top to a specific in-band channel for a download of new programming.

This position was apparently persuasive and resulted in the present Office Action of June 5, 2003 in which the teachings of Banker are cited to supplement the teachings of Bacon. However, Banker also fails to teach or suggest the claimed monitoring of an out-of-band channel for information that points the set-top to a specific in-band channel for a download of new programming.

Banker teaches a system in which both in- and out-of-band channels are used to transmit data. (Col. 5, lines 27-31). However, Banker nowhere teaches or suggests that a control signal on an out-of-band channel refers a set-top terminal to programming being downloaded over a specified in-band channel. The present Office Action fails to cite such a teaching in either Bacon or Banker.

In sum, the present Office Action fails to indicate how or where the cited prior art teaches or suggests a control signal on an out-of-band channel that refers a set-top terminal to programming being downloaded over a specified in-band channel. Moreover, Appellant can find no such teaching in the cited prior art.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, because the combination of Bacon and Banker fails to teach or suggest all the features of claims 1-4, 6-17, 24-27, 30-35 and 41-44, the rejection of those claims should not be sustained.

Additionally, claim 7 recites that "said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable

network, *said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.*" (emphasis added). Claim 43 recites similar subject matter.

In this regard, the Office Action indicates the teachings of Bacon at Col. 15, lines 57-63. At this point, Bacon teaches that the system operator may include a flag with a download that forces immediate acceptance of the download by the set-top. Claim 7 recites that a deadline is set which is "a specific point in time *subsequent* to an initial offering of said download." Thus, Bacon's immediate flag does not set a deadline that is "subsequent to an initial offering of said download." Rather, Bacon's immediate flag arrives with the initial offering of the download and forces "immediate" acceptance of the download.

Accordingly, the Office Action further argues that Bacon teaches a subscriber convenience flag that, if set, will cause a message to be displayed to the subscriber indicating that "'New software is available' and requesting 'is it OK to update the software... .' ... The control processor 128 will then wait for the subscriber key input to block A86, or after a timeout period, will accept the lack of a key input as an affirmative response... ." (Col. 16, lines 20-42).

Again, this *not* a teaching of the claimed "deadline by which acceptance of said download is required." In the example given, if the user responds negatively to the convenience flag, the download is not accepted, indefinitely. (Col. 16, lines 30-36). Consequently, there is no "deadline" at which download is required as claimed. Although Applicant made this point in the previous Appeal Brief, no response was contained in the subsequent non-Office Action.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Because Bacon and Banker fail to teach or suggest the claimed "deadline by which acceptance of said download is required," the rejection of claims 7, 8, 43 and 44 should not be sustained.

Claim 18 recites:

A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:
a processor; and
a memory unit,
wherein the processor monitors the cable network for information indicating that a download is available and indicating a specified channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified channel; and
wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

It is important to note that the subject matter of claim 18 does not deal with the timing of a download of new programming as do the claims discussed above. Rather, claim 18 deals with the timing at which newly-downloaded programming is executed by the receiving set-top terminal in favor of the programming that was previously running on that set-top terminal.

In contrast, Bacon fails to teach or suggest that, following a download of programming, execution of the new programming is delayed until certain criteria are satisfied indicating that executing the new programming will not inconvenience a subscriber. The recent Office Action concedes that Bacon and Banker fail to teach or suggest delaying execution of new programming based on criteria indicating that a subscriber will not be inconvenienced.

Consequently, the Office Action cited McClellan at col. 7, lines 23-35. This portion of McClellan, in its entirety, reads as follows:

When an operating system is found to be insufficient, a request is sent from the decoder system (10) to the interactive television network for the new module or modules. The new modules are then downloaded, along with a corresponding description record, from the interactive television system to the set top box decoding system (10). The operating system places the new description records in the configuration description block. With the description records in the configuration description block, the new modules are fully functional and there is no need to restart the system or perform any form of system reconfiguration. The entire upgrade procedure is performed by the set top box decoder system (10) without the need for interaction from the user.

Thus, McClellan teaches that downloaded programming is immediately implemented. "The new modules are then downloaded, along with a corresponding description record... . The operating system places the new description records in the configuration description block. With the description records in the configuration description block, the new modules are fully functional." McClellan does not teach or suggest any criteria that indicate whether a user will be inconvenienced by implementation of new programming. McClellan does not teach or suggest that implementation of new programming may be delayed for any such reason. McClellan does not indicate that a user is *not* inconvenienced by the downloading process, merely that no interaction from the user is needed.

Clearly, McClellan fails to teach or suggest any of the features of the claimed invention for which it [McClellan] was cited. Consequently, the combination of Bacon, Banker and McClellan does not teach or suggest that the execution of new programming may be delayed until one or more criteria are satisfied that indicate executing the new programming will not inconvenience the subscriber.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least this reason, the rejection of claims 18-23 should not be sustained.

Similarly, claim 36 recites:

A method for implementing upgraded programming received in a set-top terminal for connecting a subscriber to a cable network, said method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which a download of upgraded programming is offered, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

terminating execution of existing programming and commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied.

As noted above, Bacon and McClellan expressly teach executing new programming immediately after downloading is complete and do not teach or suggest "commencing execution of said upgraded programming only when one or more

predetermined criteria are satisfied.” Consequently, the rejection of claims 36-40 should also not be sustained.

Claim 41 recites:

A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor unit comprising a first processor and a second processor;

and

a memory unit;

wherein said first processor is dedicated to providing a user interface and said second processor is dedicated to monitoring an out-of-band channel for information indicating that a download of data or programming is available, indicating a specified in-band channel for receiving the download, and managing a download of data or programming offered to said set-top terminal over said cable network through the specified in-band channel such that said first processor can maintain said user interface including user services while said second processor manages the download.

(emphasis added).

Thus, claim 41 recites a first processor for providing a user interface and a second processor for managing the download of data or programming.

The Office Action acknowledges that Bacon and Banker fail to teach or suggest the dual processor configuration recited in claim 41. (Paper No. 23, p. 8). However, the Office Action takes Official Notice that it is known to supplement a primary processor with specialized or dedicated second processors designed specifically to perform specific tasks. (Paper No. 23, p. 8). This rejection is insufficient for a number of reasons.

First, claim 41 does not merely recite two processors. Claim 41 recites a specific division of duties for the two processors: one providing a user interface and one managing a download of data or programming. Thus, relevant prior art would not simply show two processors, but two processors performing the respective tasks as recited in claim 41. There is no such prior art of record.

Moreover, it is insufficient to simply state that a modification to the prior art would have been obvious when no cited reference teaches or suggests the proposed modification. *In re Mills*, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990). "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580

(CCPA 1974)." M.P.E.P. § 2143.03. (emphasis added). Accord. M.P.E.P. § 706.02(j). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effects of a hindsight syndrome." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (quoting *W.L. Gore & Assoc. v. Garlock, Inc.*, 220 USPQ 303, 312-13 (Fed. Cir. 1983)).

Consequently, Bacon and Banker fail to teach or suggest a set-top terminal with two processors where one processor manages programming downloads and the other manages a user interface. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). For at least this reason, the rejection of claim 41 should not be sustained.

Claims 5 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl"). Claim 5 recites that "said one or more criteria [for accepting a download] include a time of day." Claim 28 recites similar subject matter.

As acknowledged by the Office Action, Bacon and Banker fail to teach or suggest using "time of day" as a criterion for accepting a download of new data or programming. (Paper No. 23, p. 9). Adding Diehl does not remedy this deficiency because Diehl only teaches a system that activates a decoder during a specified time of day (Col. 1, lines 55-60). Diehl does not teach or suggest accepting a data download based on time of day. Diehl does not teach or suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel and accepting new programming based, in part, on the time of day such programming is offered.

Consequently, the combined teachings of Bacon, Banker and Diehl fail to teach or suggest all the features of claims 5 and 28. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)."

M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, the rejection of 5 and 28 should not be sustained.

Claims 20 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker, McClellan and Iggulden. Claim 20 recites that "the one or more criteria [for accepting a download] include detection of a commercial break in television programming being received by said set-top terminal." Claim 38 recites similar subject matter.

As acknowledged by the Office Action, Bacon, Banker and McClellan fail to teach or suggest using detection of a commercial break as a criterion for accepting a download of new data or programming. (Paper No. 23, p. 12). Adding Iggulden to the mix does not remedy this deficiency because Iggulden only teaches a video system that can detect commercial messages and eliminated them from a video recording. Iggulden fails to teach or suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel and accepting new programming based, in part, on the detection of a commercial break.

Consequently, the combined teachings of Bacon, Banker, McClellan and Iggulden fail to teach or suggest all the features of claims 20 and 38. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, the rejection of 20 and 38 should not be sustained.

Claims 45 and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of Banker and Kraml.

Claim 45 recites:

A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:

executing said newer version of said programming upon start-up of said set-top terminal;
receiving a command via said cable network to switch versions of said programming; and
terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

As acknowledged by the Office Action, Bacon and Banker fail to teach or suggest a method in which a system controller can send a command to terminate execution of one programming version and initiate execution of another version by a networked device. (Paper No. 23, p. 13). Adding the teachings of Kraml does not remedy this deficiency.

Kraml does not teach or suggest a method in which a system controller can send a command to terminate execution of one programming version and initiate execution of another version by a networked device. Kraml only teaches switching programming versions when a previous version has failed an initial integrity check during boot or has “crashed.” (Col. 6, line 47-col. 7, line 43).

Thus, the combination of Bacon, Banker and Kraml would fail to teach or suggest, “terminating execution of said newer version of said programming and beginning execution of said older version” in response to “receiving a command . . . to switch versions of said programming.” For at least this reason, the rejection of claims 45 and 46 should not be sustained.

X. Conclusion

In view of the foregoing, it is submitted that the final rejection of claims 1-46 is improper and should not be sustained. Therefore, a reversal of the Final Rejection is respectfully requested.

Respectfully submitted,



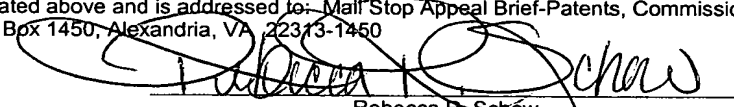
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APPENDIX**Claims on Appeal**

1. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts said download on said specified in-band channel and records said download in said memory unit when one or more predetermined criteria are satisfied, and wherein said criteria when satisfied indicates that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal.

2. The terminal of claim 1, wherein said one or more criteria are downloaded to said set-top terminal over said cable network.

3. The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is not already resident in said memory.

4. The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is specified as being intended for a class of terminals to which said set-top terminal belongs.

5. The terminal of claim 1, wherein said one or more criteria include a time of day.

6. The terminal of claim 1, wherein said one or more criteria include whether said set-top terminal is turned off.

7. The terminal of claim 1, wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.

8. The terminal of claim 7, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

9. The terminal of claim 1, wherein said set-top terminal signals said subscriber that said download is available and requests permission to accept said download, said one or more criteria including a positive response by said subscriber to said request for permission to accept said download.

10. The terminal of claim 1, wherein said set-top terminal tunes to said specified in-band channel to receive said download if said one or more criteria are satisfied.

11. The terminal of claim 1, wherein if said one or more criteria are satisfied, said processor erases information in said memory unit and replaces said erased information with data or programming from said download.

12. The terminal of claim 1, wherein following said download of programming, said processor will only execute newly-received programming from said download when one or more predetermined criteria are satisfied.

13. The terminal of claim 1, wherein, prior to accepting said download, said processor determines whether any programming is stored in said memory which

is not being executed, but which is identified as being a later version than programming being executed by said processor at that time; if said processor locates any such later version of programming in memory, said processor will terminate execution of the programming being executed, erase said terminated programming from memory and reset so as to execute said later version of said programming.

14. The terminal of claim 1, wherein, when said one or more criteria for accepting said download have been satisfied, said processor will erase from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

15. The terminal of claim 1, wherein said memory unit is logically partitioned into two sections, a first section for containing programming being executed by said processor and a second section for receiving and storing programming from said download.

16. The terminal of claim 1, wherein each download of programming contains two versions of a programming object, a first programming object for storage in and execution from a first memory section of said memory unit and a second programming object for storage in and execution from a second memory section, of said memory unit wherein said processor downloads one of said two versions of programming in accordance with whether said first or second memory sections is vacant.

17. The terminal of claim 1, wherein said memory unit comprises two separate memory devices, a first memory device for containing programming being executed by said processor and a second memory device for receiving and storing programming from said download.

18. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors the cable network for information indicating that a download is available and indicating a specified channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified channel; and

wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

19. The terminal of claim 18, wherein said one or more criteria include whether said set-top terminal is turned off.

20. The terminal of claim 18, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

21. The terminal of claim 18, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

22. The terminal of claim 21, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

23. The terminal of claim 18, wherein said set-top terminal signals said subscriber that new programming has been received and is ready for execution and requests permission to execute said new programming, said one or more criteria including a positive response by said subscriber to said request for permission to execute said new programming.

24. A method for minimizing interruptions to use of a set-top terminal that connects a subscriber to a cable network where said interruptions result from downloading data or programming to said set-top terminal over said cable network, the method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which said download is available, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

accepting said download on said specified in-band channel only when one or more predetermined criteria are satisfied, said criteria when satisfied indicating that acceptance of said download will not interfere with said subscriber's use of said set-top terminal.

25. The method of claim 24, further comprising downloading said one or more criteria to said set-top terminal over said cable network.

26. The method of claim 24, further comprising verifying that said data or programming offered as said download is not already resident in said set-top terminal.

27. The method of claim 24, wherein said method further comprising verifying whether said one or more predetermined criteria are satisfied.

28. The method of claim 27, wherein said verifying comprises comparing a time of day against a predetermined acceptable time of day for accepting a download.

29. The method of claim 27, wherein said verifying comprises determining whether said set-top terminal is turned off.

30. The method of claim 24, further comprising signaling said subscriber that said download is available and requesting permission to accept said download,

wherein said one or more criteria include receiving a positive response by said subscriber to said request for permission to accept said download.

31. The method of claim 24, further comprising, subsequent to said download of programming, executing newly-received programming from said download only when one or more predetermined criteria are satisfied.

32. The method of claim 24, wherein, prior to accepting said download, said method comprises:

determining whether any programming is stored in said memory which is not being executed, but which is identified as being a later version than programming running on said set-top terminal at that time; and,

if any such later version of programming is located in memory, terminating execution of the programming being executed, erasing said terminated programming from memory and resetting said set-top terminal so as to execute said later version of said programming.

33. The method of claim 24, wherein, when said one or more criteria for accepting said download have been satisfied, said method further comprises erasing from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

34. The method of claim 24, further comprising partitioning said memory unit into two memory sections, a first memory section for containing programming being executed by said processor and a second memory section for receiving and storing programming from said download.

35. The method of claim 34, wherein each download of programming contains two versions of a programming object, a first programming object for storage in and execution from said first memory section and a second programming object for storage in and execution from said second memory section, wherein said method

further comprises selectively downloading one of said two versions of programming in accordance with whether said first or second memory section is vacant.

36. A method for implementing upgraded programming received in a set-top terminal for connecting a subscriber to a cable network, said method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which a download of upgraded programming is offered, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

terminating execution of existing programming and commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied.

37. The method of claim 36, wherein said one or more criteria include whether said set-top terminal is turned off.

38. The method of claim 36, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

39. The method of claim 36, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

40. The method of claim 39, further comprising deferring said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

41. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor unit comprising a first processor and a second processor; and
a memory unit;

wherein said first processor is dedicated to providing a user interface and said second processor is dedicated to monitoring an out-of-band channel for information indicating that a download of data or programming is available, indicating a specified in-band channel for receiving the download, and managing a download of data or programming offered to said set-top terminal over said cable network through the specified in-band channel such that said first processor can maintain said user interface including user services while said second processor manages the download.

42. The terminal of claim 1, wherein said programming is received in packets, said terminal being configured to reassemble said packets into an executable object and stored into non-volatile memory.

43. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

- a processor; and
- a memory unit,

wherein the processor monitors transmissions over said cable network for information indicating that a download of data or programming is available and indicating a specified channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts a download and records said download in said memory unit when one or more predetermined criteria are satisfied that indicate that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal; and

wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.

44. The terminal of claim 43, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including

recording programming in conjunction with a video cassette recorder or providing pay-per-view programming.

45. A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:

executing said newer version of said programming upon start-up of said set-top terminal;

receiving a command via said cable network to switch versions of said programming; and

terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

46. The method of claim 45, further comprising erasing said newer version of programming from said memory and restarting said set-top terminal to begin execution of said older version of programming.